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Full Length Research Paper

Financing of higher education in Africa: A case of Ethiopia public universities cost containment measures

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With the tremendous increase in university students enrolments experienced in Ethiopian public universities since years 2005, financing of university education has become topical issue among education stakeholders. This paper explores extent to which Ethiopian public universities have instituted cost containment measures to bridge the financing gap occasioned by the limited public funding. The study which is exploratory in nature, sampled eight public universities that have been in existence for more than two years. Findings indicated that the academic staff ratios and non academic staff ratios were sub optimal and below those of selected African universities. Physical facilities utilization was also found to be sub optimal. Most of the universities managed all noncore services rather than outsource as is the common practice and most universities did not have an inventory of facilities. The study's findings indicate that more students and programmes could be implemented within the existing infrastructure in Ethiopian public universities, if the resources available were used efficiently.

Key words: Cost Containment, Academic Staff Ratio, Non-academic Staff Ratio, Outsourcing.

INTRODUCTION

Ethiopia has an area of 1.1million square kilometers and an estimated population of 80 million with diverse languages, culture and topography. The male/female proportion is roughly the same. 15% of the population is urban and 85% is rural (Ministry of Education, 2005:5). Ethiopia has 21 public universities, with over 90% having being established in the last 7 years. The country experienced abrupt demand for higher education in the years 2005/2006. An aggressive university expansion policy designed to raise the country's tertiary enrolment ratio to more significant levels produced some significant results. Total tertiary enrolments in universities and non-university tertiary institutions, both public and private, rose from 42,132 in 1997/98 to 192,165 in 2002/05.

The annual enrolment growth rate of 50.86 per cent and tertiary-level gross enrolment ratio of 1.5 per cent in 2005 was a great leap from the gross enrolment of 0.8 in 2003, which placed the country among the lowest ranking countries of the world in education growth (Ministry of Education, 2005:12). In line with the expansion strategy, the government launched Education Sector Development Programmes (ESDP) (a five-year development plan) programmed for academic years 2005/6 to 2010/11.

The programme envisioned to increase regular undergraduate enrolments from 35,000 to 80,000 and to quadruple graduate enrolments (from 1,350 to 6,000) during the three-year period. Though considerable ground has been covered with regard to undergraduate enrolments, graduate enrolment has however recorded modest growth. Public investment in education has risen as a share of Gross Domestic Product from 3.2 per cent to 4.5 per cent. This level of financial effort was higher than the 3.9 per cent registered for sub-Saharan Africa as a whole. Education expenditure has also increased as a proportion of the overall government budget from 9.5 per cent to 16.8 per cent. Such increases still fall short of reaching the general range of 20 per cent to 25 per cent

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for most developing countries, suggesting that scope remains for further increases in the government's education financing effort over the coming years (Saint, 2005:7).

The Ethiopian government finances virtually all public tertiary systems that include the provision of free non-academic services to regular students. Full-time students (39 per cent of all students) pay no significant tuition fees, although part-time and private students (61 per cent of all students) do pay relatively higher fees. Part-time students are charged tuition of Birr 30 to 50 per credit hour, or Birr 90-150 (US$10–17) for the normal three credit course load taken each semester. Some institutions charge evening students additional fees of Birr 26 to 58 per credit hour for laboratory courses (Ibid). Annual recurrent expenditures per university student stand approximately at Birr 7,457 (US$860) when government-provided food, lodging and health care are included and Birr 5,500 (US$636) when student welfare subsidies are excluded. The latter level of educational investment is low in comparison to sub-Saharan Africa (US$1,500) and to neighboring nations like Kenya (US$1,800), Tanzania (US$3,236) and Uganda (US$800). Experience indicates that it is extremely difficult to provide higher education at an acceptable standard for less than an annual per-student expenditure of US$1,000 (Association of African Universities 1997).

Student welfare subsidies and fee-free higher education are increasingly at odds with prevailing practice in other African countries, especially in the Anglophone sphere, where various forms of student cost-sharing are emerging (Johnstone, 2003). Consequently, the government introduced a university graduate tax in September 2003 designed to re-coup gradually the cost of meals and lodging, together with a small portion of tuition costs. Cost-sharing based on the 'graduate tax' will not immediately relieve the financial pressures on the system produced by rapid enrolment expansion, further any university education system would be hard pressed to substantially expand enrolments while maintaining high levels of educational quality.

While the expansion in enrolments is raising the academic staff/student ratios to efficient levels in Ethiopia, the non-academic staff/student ratios are excessively high (Saint, 2005) and a great opportunity exists here for cost reduction, one public policy option for funding expansion of the higher education system is to determine whether more activities can be done within current budget limits. Will a slight increase in productivity make room for additional activities or can more students be added to existing programmes? Could the cost-allocation and task distribution be changed to free up space for additional activities? These types of policy changes can make higher education more efficient. Although efficiency can be defined in many ways, primarily it requires doing more within the existing budget (ibid). This paper explores the extent to which Ethiopian public universities have instituted cost containment measures.

METHODS AND MATERIALS

Methods

The study employed a descriptive research design. The survey explores and describes observed phenomena (Kathuri and Pals, 1993). The population of the study consisted of all 21 Ethiopian public universities. Of the 21 public universities in Ethiopia, 13 universities were less than last 2 years old. Owing to their low levels of development it was deemed that will not provide sufficient data required to meet the study's objectives. The study therefore selected all the 8 older public universities that had been in existence as fully fledged universities for more than two years.

Materials

The study employed a combination of interviews and questionnaires in collecting data. A detailed questionnaire and interview schedule was developed to guide the data collection. The instruments were standardized for validity using Cronbach's Alpha procedure. Pretesting of the instruments was done at Debre Markos University, one of the new universities that were not included in the sample. This formed the basis of exclusion of universities that were less than 2 years old. Visits were made to each of the eight sampled universities guided questionnaires were filled, interviews conducted, and general observations made. Comparative data from regional universities was also obtained through secondary data mining.

RESULT AND DISCUSSIONS

One of the policy options available to universities in funding expansions is the institution of cost containment measures and improving resources utilization. This may be accomplished by increasing the academic and non academic staff ratios and determining whether productivity could be increased using the existing facilities. The study's findings in this regard are discussed below.

Academic Staff, Student Ratios

A common indicator of efficiency in education is the ratio of academic staff to students. As highlighted in table 1, in comparison to regional staff/student ratios, those in

Table 1. Academic Staff, Student Ratios

Ethiopian Public Universities	2003 Ratio*	2008 Ratio	Regional Public Universities	2003 Ratio*
Addis Ababa University	13	14	Cairo University	28
Haromaya University	12	17	Makerere University	20
Bahir Dar University	17	14	University of Ghana	19
Hawassa University	11	17	University of Ibadan	19
Jimma University	9	18	University of Khartoum	21
Mekele University	14	9	University of Nairobi	19
Gonda University	-	14		
Adama University	-	12		

*Source: World Bank, 2004

Table 2. Academic Staff, Non Academic Staff Ratios

University	*2004 Ratio**	*2008 Ratio*
Addis Ababa University	1:2	1:2
Haromaya University	1:3	1:1
Bahir Dar University	1:1	1:2
Hawassa University	1:1	1:3
Jimma University	2:1	1:1
Mekele University	1:1	1:1
Gonda University	-	1:2
Adama University	-	1.1

*Source: World Bank, 2004

Ethiopia would suggest room for improvement, i.e., that academic staff teaching loads could be a bit higher when compared with other African universities.

Although there has been some tangible improvement especially in Jimma University (1:9 to 1:18), Hawassa University (1:11 to 1:17), and Haromaya University (1:12 to 1:17) within the last four years, the staff/student ratios all the Ethiopian public universities are still below those of regional universities. The ratios in Mekele University in particular have instead become less inefficient.

Academic Staff, Non Academic Staff Ratios

The ratio of academic staff to non-academic staff can be used as another indicator of efficiency. If non-academic staff numbers are proportionately high, perhaps too many persons have been hired to undertake non-academic tasks and the university may be playing an employment-generation role for the surrounding community.

The study's findings indicate that the current ratio of academic to non academic staff range between 1:1 and 1:3 (see table 2). There has been no tangible improvement for the ratios within the last four years. Although no clear guidelines exist on this matter, many knowledgeable observers believe that the ratio of academic staff to non-academic staff should fall between 2:1 and 3:1. On this basis, the current ratios for Ethiopian universities suggest that more careful justification of non-academic staff numbers may be in order

Further, the very low ratio between non-academic staff and students has remained constant throughout the current process of enrolment expansion. Whereas this ratio was 1:8 in 2003 (World Bank 2004), it was 1: 11 in 2008, this ratio suggests that universities have been hiring non-academic staff almost as fast as student numbers increase. In the process, they overlook opportunities for cost-savings and work performance improvement. The permanent employment of large numbers of non-academic staff is costly and inefficient for Ethiopian universities.

Use of Facilities

The study investigated how well the universities utilized existing facilities; the facilities sampled included classrooms and labs, land, the purchasing/function especially with regard to beds and mattresses, computers, printers and photocopiers. These facilities were considered as crucial in providing information as to the general level of utilization of physical. According to Okwach (2001), one public policy option for funding expansion of the higher education system is to determine whether more activities can be done within current budget limits.

Table 3. The Ratio of Photocopiers, Computers and Printers

University	Photocopiers		Computers			Printers	
	Academic Staff	Non academic Staff	Academic Staff	Non academic Staff	Students	Academic Staff	Non academic Staff
Addis Ababa University	142:1	61:1	1:2	1:4	7:1	3:1	27:1
Haromaya University	14:1	13:1	1:1	4:1	14:1	10:1	7:1
Jimma University	5:1	6:1	1:1	2:1	63:1	2:1	6:1
Hawassa University	14:1	94:1	1:1	26:1	9:1	6:1	31:1
Adama University	17:1	38:1	1:2	1:1	18:1	4:1	29:1

Classrooms and Labs

With regard to use of classrooms and labs, Ethiopian public universities could do more with existing physical infrastructure. Apart from Adama University, all the other universities have a 1 hour lunch break, with Mekele and Gondar universities having up to two hours lunch break in some of their campuses, where all the learning activities stopped. Further, in all the universities, learning programmes started at 8 am and ended at 5 pm, but in Adama University, learning programmes started at 8am and ended at 6pm. Given that Adama University has 85 classrooms in total, 85, free classes were made free for two more hours each day. This way Adama University is able to do more with existing learning space.

The practice in many universities in the rest of the world is to have learning programmes running from 7 am to 7am with no lunch break in order to make more productive use of available learning space. This way, more students could be enrolled with little or no investment in physical infrastructure. The number of classrooms and labs ranged from 85 in Adama University to slightly over 220 in Addis Ababa University. Going by these figures the potential to increase productivity with the current physical infrastructure is therefore enormous.

All the universities did not have a university timetabler. Timetabling is decentralized to faculties. Each faculty has been allocated classrooms and labs which are often not available for use by other faculties even when free. This means that learning space is not used optimally.

Surprisingly apart from Haromaya University which has published an inventory of its entire physical infrastructure and their capacities, the rest of the universities have no inventory of their physical infrastructure. To determine the number of classes in the other universities figures were collected from each faculty in the university and collated.

The Purchasing/ Stores Function

Table 3 indicates the ratio of photocopiers, computers and printers to academic staff, non academic staff and students, based on the allocations of the equipments to these groups. The findings of the study indicate that a needs assessment is in most cases never carried out before procurement of goods in all the universities, none of the universities had organized data for this items. It took more than two weeks to get this data organized and in some universities it was totally not forthcoming. In some of the universities excluded from the analysis the exiting data was incremental in nature showing all the amounts of the items under study that the universities have ever purchased, with no attempt being made to remove obsolete items from the inventory records.

There were more computers allocated to academic staff than the actual number of academic staff in all the universities. In Addis Ababa University and Adama University computer allocations to academic staff showed that each academic staff had been allocated up to two computers. The ratio of academic staff to printers ranged from 6:1 in Hawassa University to 2:1 in Jimma University. The ratios of photocopiers was also considered to be highly inefficient in some universities such as Jimma University. The bulk of the non academic workers are engaged in activities that do not require the personal use of computers, printers or photocopiers, hence the ratios of these equipments require justification.

It was further found out that beds and mattresses in all the universities were procured in excesses sometimes running into hundreds. The excess beds ranged from 2722 to 5107 with mattresses also exceeding in similar figures. Due to lack of storage space these excess beds were kept in open ground in some universities. This is an indication of inefficient procurement; university funds are tied to idle fixed assets, which might waste before they are ever put into productive use.

Outsourcing Non-core Services

Only three universities have attempted to outsource non-core services, Mekele University has outsourced security and cleaning services while, Addis Ababa University has outsourced security services in only one of its campuses and Bahir Dar University has outsourced cleaning services.

Mkude (2003) and Kigotho (2000) argue that out sourcing non-core services such as management of residence halls, computer maintenance, campus security, university vehicle maintenance and repair, care of the grounds and gardens and minor facilities maintenance, is common in African universities. Among the benefits of these arrangements include: lessening the supervision burden for university staff, reducing the non-academic workforce with its associated personnel management responsibilities and social benefits, improving performance levels (poorly performed contracts are not renewed) and introducing greater flexibility in the application of university funds.

CONCLUSIONS AND RECOMMENDATIONS

The study's findings indicate that utilization of university resources in Ethiopian public universities was to be sub optimal, academic staff-student ratios and academic/non academic staff ratios are way below those of regional universities, facilities are underutilized and the procurement systems are largely inefficient. More could be accomplished with existing facilities were the universities to be flexible with regard to time use and if the procurement systems were to be efficient.

The study recommends that Ethiopian public universities raise the staff, student ratios to efficient levels. The universities should consider increasing the use of facilities available by opening them up to productive use during the lunch breaks and after five pm. The universities should also consider taking inventory of all the physical resources to avoid the current state where procurement is not based on existing inventory. Non-core services should also be considered for outsourcing

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